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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,537	12/19/2003	Gary A. KNEEZEL	117003	1536
27074	7590	05/21/2007		
OLIFF & BERRIDGE, PLC. P.O. BOX 19928 ALEXANDRIA, VA 22320				
			EXAMINER	
			ARANCIBIA, MAUREEN GRAMAGLIA	
			ART UNIT	PAPER NUMBER
			1763	
			NOTIFICATION DATE	DELIVERY MODE
			05/21/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27074@oliff.com  
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## Office Action Summary

Application No.

10/707,537

Applicant(s)

KNEEZEL, GARY A.

Examiner

Maureen G. Arancibia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 4-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Terminal Disclaimer*

1. The terminal disclaimer filed on 21 February 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 7,172,076 (which issued from Application Serial No. 10/707535) has been reviewed and is accepted. The terminal disclaimer has been recorded.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Kokai 06-183002A to Hosogai et al. The following rejection refers to the Figures and English Machine Translation (EMT) of Hosogai et al.**

In regards to Claims 1 and 2, Hosogai et al. teaches a method of manufacturing an ink jet recording head, comprising: providing a first substrate 6; providing a second substrate 5; forming a plurality of first passages 2 (*individual reservoirs*) in the first substrate using an orientation-dependent etching technique (EMT, Paragraph 12); forming a plurality of second passages 1 (*nozzles*) in the first substrate using an orientation-dependent etching technique (EMT, Paragraphs 2 and 12); forming a plurality of third passages 8 (*bypass pit 8 corresponding to each nozzle*) in the second

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substrate (*in top layer 10*) using an etching technique (EMT, Paragraphs 13-15); and placing the first and second substrates adjacent to each other (EMT, Paragraph 14), such that the plurality of third passages extend between the first passages and second passages and fluidly connect the first and second passages (Figures 1 and 9; EMT, Paragraph 14).

The ink jet recording head taught by Hosogai et al. may be considered to comprise an internal filter comprising the plurality of first passages 2, the plurality of second passages 1, and the plurality of third passages 8, since due to the constriction in the fluid path (Figure 1) as the fluid flows through the first passages 2, into and through the third passages 8, and into the second passages 1, particles having a size greater than that which can pass through the third passages would inherently be filtered from the fluid. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosogai et al.**

The teachings of Hosogai et al. were discussed above.

In regards to Claim 3, Hosogai et al. does not expressly teach that third passages 8 are formed by orientation-dependent etching.

However, Hosogai et al. teaches that the second substrate 5 in which the third passages 8 are formed is a wafer (Paragraph 2), and that orientation-dependent etching (*anisotropic etching*) is suitable for formation of separate rectangular recesses in a wafer (Paragraph 3).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the method taught by Hosogai et al. to form the third passages 8 by orientation-dependent etching directly into the surface of the base second substrate 5, since, as taught by Hosogai et al. (Paragraph 3), such a process can form rectangular recesses with precision.

### ***Response to Arguments***

6. Applicant's arguments, see Pages 1-2 of the Remarks filed 21 February 2007, with respect to the rejection(s) of claim(s) 1-3 relying on U.S. Patent 6,234,623 to Drake et al. have been fully considered and are persuasive, specifically in regards to the failure of Drake to teach that the singular internal filter made by the method of Claim 1 *as amended* comprises the plurality of first passages, plurality of second passages, and plurality of third passages. (Examiner notes that it appears that Applicant, due to a typographical error in the Remarks, was actually referring to Drake's teaching that a plurality of ink manifolds 56 are only present on the undiced wafer shown in Figure 5A, and that once the wafer is diced into multiple individual internal filters, each filter contains only one ink manifold 56.) Therefore, the rejection has been withdrawn.

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However, upon further consideration *in view of the amendment to the claims*, a new ground(s) of rejection is made in view of Hosogai et al.

7. Applicant's arguments have been considered but, where not addressed above, are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 7,047,642 to Kataoka et al. teaches an internal filter comprising a plurality of first passages 30A, a plurality of second passages 22, and a plurality of third passages (between pillars 27). (Figures 2A-2B)

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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